EXPERIMENTAL CELL RESEARCH

Published under the auspices of

THE INTERNATIONAL SOCIETY FOR CELL BIOLOGY

EDITORS:

H. BAUER · T. CASPERSSON · E. FAURÉ-FREMIET

H. B. FELL · G. MONTALENTI · J. T. RANDALL · J. RUNNSTRÖM

F. O. SCHMITT · P. WEISS · R. W. G. WYCKOFF

VOLUME 8 · 1955

ACADEMIC PRESS INC., PUBLISHERS, NEW YORK, N. Y.

Printed in Sweden

Almqvist & Wiksells

BOKTRYCKERI AB

UPPSALA 1955

56-4684

TABLE OF CONTENTS

QH581
E95

v. 8-9

NUMBER 1

RUNNSTRÖM, J. and HAGSTRÖM, B., Studies on the action of the „fucus fertilization inhibitor" on sea urchin egg and sperm 1
STEINMANN, E. and SJÖSTRAND, F. S., The ultrastructure of chloroplasts . . . 15
SCHNEIDER, R. M., The effect of anions on the optical properties of rat liver nuclei isolated in glycerol solutions 24
HALL, D. A., REED, R., and TUNBRIDGE, R. E., Electron microscope studies of elastic tissue 35
RUNNSTRÖM, J., Changes in the submicroscopic structure of the cytoplasm attending maturation and activation of the sea urchin egg 49
HELLER, IDA M. and KOPAC, M. J., Cytochemical reactions of normal and starving *Amoeba proteus*. I. Localization of thiols, DNA, RNA and other organic phosphates 62
HJELTE, MAJ-BRITT, GUSTAFSON, T., and THORÉN, INGRID, Studies on growth factors from the sea urchin egg 76
ANDERSON, N. G., Studies on isolated cell components. VIII. A reexamination of the preparation and properties of rat liver homogenates 91
HOLMES, B. E., MEE, L. K., HORNSEY, S., and GRAY, L. H., The nucleic acid content of cells in the meristematic elongating and fully elongated segments of roots of *Vicia faba* 101
GUSTAFSON, T. and LENICQUE, P., Studies on mitochondria in early cleavage stages of the sea urchin egg 114
GUSTAFSON, T., Observations on differentiation with inhibited cleavage in the sea urchin egg 118
LASNITZKI, ILSE, The effect of excess vitamin A on mitosis in chick heart fibroblasts *in vitro* 121
MARSHAK, A. and MARSHAK, CELIA, Quantitative determination of desoxyribonucleic acid in echinoderm germ cells 126
AFZELIUS, B. A., The ultrastructure of the nuclear membrane of the sea urchin oocyte as studied with the electron microscope 147
WEINREB, EVA LURIE, Histochemical demonstration of sites of acid phosphatase activity in mitochondria 159
AUSTIN, C. R. and BRADEN, A. W. H., Observations on nuclear size and form in living rat and mouse eggs 163
CHENEY, R. H. and LANSING, A. I., Caffeine inhibition of fertilization in *Arbacia* 173
BOSS, J., Mitosis in cultures of newt tissues. IV. The cell surface in late anaphase and the movements of ribonucleoprotein 181
KLEIN, EVA, Gradual transformation of solid into ascites tumors. Evidence favoring the mutation-selection theory 188

KLEIN, EVA, Immediate transformation of solid into ascites tumors. Studies on a mammary carcinoma of an inbred mouse strain 213

BRIEF NOTES

ROBERTSON, J. D., Recent electron microscope observations on the ultrastructure of the crayfish median-to-motor giant synapse 226
LALLIER, R., Animalisation de l'œuf d'oursin par les sels de zinc et de cadmium 230
AGRELL, I., A mitotic rhythm in the appearance of mitochondria during the early cleavages of the sea urchin embryo 232
RUNNSTRÖM, J., HAGSTRÖM, B., and LÖW, H., On the effect of ribonuclease on a jelly precipitating factor from the egg of the sea urchin, *Psammechinus miliaris* 235
MAGGIO, R. and MONROY, A., Some experiments pertaining to the chemical mechanisms of the cortical reaction in fertilization of sea urchin eggs 240
TORRES DE CASTRO, F. and COUCEIRO, A., Studies on vital staining of protozoa 245
BERNHARD, W., Appareil de deshydratation continue 248
FOX, H., The effect of sodium sulphadiazine on the nuclear population of the pronephros in *Triturus cristatus karelinii* (Strauch) 250
KIHLMAN, B. and OVERGAARD-HANSEN, K., Inhibition of muscle phosphorylase by methylated oxypurines 252
PRESCOTT, D. M., Culturing of *Amoeba proteus* on *Tetrahymena* 256

NUMBER 2

NAORA, H., Microspectrophotometry of cell nucleus stained by Feulgen reaction 259
GORDON, M. W. and NURNBERGER, J. I., Acute cold-induced changes in cellular protein and nucleic acids in rat liver and brain 279
KAPLAN, J. G., The alteration of intracellular enzymes I. Yeast catalase and the Euler effect 305
CARLSEN, F. and KNAPPEIS, G. G., The anisotropic and isotropic bands of skeletal muscle in light- and electron microscopy. 329
PELC, S. R. and GLÜCKSMANN, A., Sulphate metabolism in the cartilage of the trachea, pinna and xiphoid process of the adult mouse as indicated by autoradiographs 336
KIHLMAN, B., Chromosome breakage in *Allium* by 8-ethoxycaffeine and X-rays 345
GIESE, A. C., IVERSON, R. M., SANDERS, R. T., and BORS, J. P., Peroxide and ultraviolet radiation effects 369
MEYER-ARENDT, E. und MEYER-ARENDT, J., Grundlagen der Photometrie mit Wechsellicht 387

BRIEF NOTES

KAUTZ, J. and DE MARSH, Q. B., Fine structure of the nuclear membrane in cells from the chick embryo: on the nature of the so-called »pores» in the nuclear membrane 394

ALLEN, R. D., The fertilization reaction in isolated cortical meterial from sea urchin eggs 397
MIKAELSEN, K., The protective property of thiourea against radiation induced chromosome aberrations 400
KIHLMAN, B., Studies on the effect of oxygen on chromosome breakage induced by 8-ethoxycaffeine 404
WIGAND, R., Cytochemischer Nachweis der Nucleoproteide durch enzymatischen Abbau 408

NUMBER 3

HARMAN, J. W. and KITIYAKARA, A., Studies on mitochondria VI. The relationship between the structure, osmotic reactivity and ATPase activity of mitochondria from pigeon skeletal muscle 411
KALTENBACH, J. C. and HARMAN, J. W., Studies on mitochondria VII. The relationship between the control of structure and the dinitrophenol stimulation of adenosinetriphosphatase in liver mitochondria 435
CLERMONT, Y., GLEGG, R. E., and LEBLOND, C. P., Presence of carbohydrates in the acrosome of the guinea pig spermatozoon 453
ABOOD, L. G. and ROMANCHEK, L., Some chemical and physical properties of microsomes 459
GIARDINA, G. and MONROY, A., Changes in the proteins of the sea urchin egg at fertilization 466
RIBI, E. and SHEPARD, C., Morphology of *Bacterium tularense* during its growth cycle in liquid medium as revealed by the electron microscope 474
GODMAN, G. C., The effect of colchicine on striated muscle in tissue culture . . 488
GONSE, P. H. et YOTSUYANAGI, Y., Note sur la réduction intracellularie du triphényltétrazolium dans les œufs d'oursin 500
JENSEN, W. A., A morphological and biochemical analysis of the early phases of cellular growth in the root tip of *Vicia faba* 506
ALBERT, E. und FELIX, K., Über die Kerne der Ganglien- und Gliazellen und ihre Veränderungen in Rohrzuckerlösungen 523
FINAMORE, F. J., A study of ribonuclease and desoxyribonuclease during the early developmental stages of *Rana pipiens* 533
SHANNON DANES, B., Metabolism of the embryonic chick heart fibroblast grown in tissue culture 543
GONSE, P. H., Recherches sur la physiologie de l'ovogenèse chez *Phascolosoma vulgare* 550

BRIEF NOTES

SNOAD, B., The influence of temperature upon the nucleoli of *Tradescantia* . . 554
OHNO, S. and KINOSITA, R., The primary and secondary constrictions on the chromosomes of the rat lymphoblasts 558
HELLER, I. M. and KOPAC, M. J., A microincinerative study of normal and starving *Amoeba proteus* 563

WALKER, P. M. B., A high speed recording microdensitometer suitable for cytological research 567
RHODIN, J., Electron microscopy of the glomerular capillary wall 572
SYLVÉN, B. and MALMGREN, H., Topical distribution of proteolytic activities in some transplanted mice tumors 575
MOBERGER, G. and DE, P., A cytochemical study of the cellular granules in the *stratum* granulosum of the epidermis 578
POLICARD, A. et BESSIS, M., Etude au microscope électronique de la centrosphère des leucocytes des mammifères 583
BEYER, R. E., ERNSTER, L., LÖW, H., and BEYER, T., Correlation of optical density and oxidative phosphorylation in reconstructed mitochondrial systems 586